

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An overcurrent relay comprising:

a calculating unit that outputs a trip signal or a reset signal to instruct supply and non-supply of power based on current information on a main circuit current supplied to a load;

a power source unit that supplies power to a coil based on the trip signal or the reset signal when the trip signal or the reset signal is input;

an electromagnet unit that performs a trip operation to move a movable iron core from a position of a stationary state to a position of a trip state and a reset operation to move the movable iron core from the position of the trip state to the position of the stationary state when the power is supplied from the power source to the coil based on the trip signal or the reset signal; and

a contact point mechanism unit that opens a usually-closed contact point through the trip operation of the movable iron core and closes the usually-closed contact point through the automatic or manual reset operation,

wherein

the movable iron core ~~includes~~ arranged on sides of the coil and forms a magnetic circuit,

the contact point mechanism unit includes:

a movable contactor support that supports a movable contactor composing a part of the usually-closed contact point while being maintained in the movable iron core; and

a reset bar arranged in a manner that is switchable between an automatic reset setting and a manual reset setting,

in the automatic reset setting the reset bar does not engage with the movable contactor support in an operation range of the movable contactor support,

in the manual reset setting the reset bar engages with the movable contactor support in interlock with the movable iron core to interrupt the reset operation of the movable iron core of the electromagnet unit, and

when the reset operation is manually performed, the reset bar engages with the movable contactor support to be moved up to a position at which the reset operation is completed.

2. (original): The overcurrent relay according to claim 1, wherein

in the stationary state in the manual reset setting a position of the reset bar in the stationary state is defined when a protrusion provided in the reset bar on which a resilient force of a spring is exerted engages with a protrusion provided in the movable contactor support, and

in the trip state in the manual reset setting when the engagement of the protrusion provided in the reset bar with the protrusion provided in the movable contactor support is released, the reset bar is moved in a direction in which the resilient force of the spring is

exerted, and a position of the protrusion provided in the reset bar is defined on a rotation locus of the protrusion provided in the movable contactor support to interrupt the reset operation of the movable contactor support.

3. (original): The overcurrent relay according to claim 2, wherein

the protrusion provided in the movable contactor support has a substantially cylindrical shape, and

the protrusion provided in the reset bar has an inclined plane along a rotation locus of the substantially cylindrical-shaped protrusion of the movable contactor support.

4. (original): The overcurrent relay according to claim 1, further comprising:

a case engagement protrusion provided in the reset bar; and

a groove provided in a case and engaging with the case engagement protrusion to prevent the reset bar from being manually moved in a direction opposite to a direction in which a resilient force of a spring is exerted in the automatic setting.

5. (currently amended): The overcurrent relay according to claim 1, wherein

the movable contactor support includes an indication protrusion to indicate one of the stationary state and the trip state, and

the indication protrusion provided in the movable contactor support has a step formed to be movable in a tripping direction to perform a test trip for confirming an operation by using a tool with which the step engages.

6. (original): The overcurrent relay according to claim 1, wherein

a rotation position of the movable contactor support is defined as a position at which a clearance between a contact point of the movable contactor of the usually-closed contact point and a contact point of a fixed contactor in the trip state becomes approximately equal to a clearance between a contact point of the movable contactor of the usually-opened contact point and a contact point of the fixed contactor in the stationary state.
7. (new): The overcurrent relay according to claim 1, further comprising:

a current transformer unit which obtains and converts current; and

a rectifying unit which outputs a rectified current to the calculating unit.
8. (new): The overcurrent relay according to claim 7, further comprising:

an operation current adjusting unit which changes a current value determined as abnormal by the calculating unit.
9. (new): The overcurrent relay according to claim 8, wherein

the operation current adjusting unit comprises a variable resistor to change a current value determined as abnormal.
10. (new): The overcurrent relay according to claim 1, further comprising:

a permanent magnet installed on a lower portion of a fixed iron core.

11. (new): The overcurrent relay according to claim 1, further comprising:
a spring having one end fixed to the movable contactor support and the other end fixed to the movable contactor to exert a force on a contact point of a fixed contactor.

12. (new): The overcurrent relay according to claim 1, wherein
the movable contactors are positioned on the movable contactor support and form electrical connection with the fixed contactors when the contact point mechanism unit is closed.